

centre of mesonotum. Pilosity less abundant than in ♀. Mandibles with six teeth. Clypeus raised in centre, but not (strictly speaking) carinate, as is the case in the ♀; anterior border notched.

Head narrower, scale thinner than in ♀ major, otherwise similar.

Wongong, W.A. (Clark, no. 162), ♀ ♂ ♀.

Types W. C. C. coll.

Polyrhachis (Campomyrma) sidnica, Mayr,
var. PERTHENSIS, NOV.

♂. Differs from the type in the length of the outer spines of the scale, which are slightly longer than the inner ones; in the gaster not being matt and microscopically punctulate, but more or less smooth and shining, the superficial reticulation only being distinguishable under a magnification of 60 diameters; and in the colour of the legs, which are ferruginous in the type, and almost entirely black in the variety.

Perth (Clark, nos. 8 and 20).

Type W. C. C. coll.

III.—*Notes on the Asilinae of the South African and Oriental Regions.* By GERTRUDE RICARDO.

[Concluded from vol. viii. p. 192.]

Philodicus rufiventris, Bigot.

Nouv. Archiv. d. Mus. d'Hist. Nat. Paris, ser. 3, ii. p. 207 (1890).

A female described from Laos, measuring 26 mm.

Antennæ incomplete, black. Moustache black. Abdomen elongated, black, the three first segments covered with reddish tomentum. Legs blackish, tibiæ reddish. Wings nearly clear.

This species is unknown to me.

Philodicus blandus, Wied., is said by Schiner to belong to this genus, from an unknown locality. The author describes it as a species with wholly black legs, bristles chiefly black. Moustache yellow.

Length, ♂ ♀, 15 mm.

It is probably an Oriental species, as no species from the South African region have wholly black legs.

The two following species, not belonging to the Oriental Region strictly, are added here :—

Philodicius ponticus, Bigot.

Ann. Soc. Ent. France, (5) x. p. 148 (1880) [*Alcimus*].

From South Kurdistan.

The above specimen, in poor condition, has been lately acquired by the Brit. Mus. Coll.

The *moustache* is white. *Thorax* and *scutellum* with white bristles. *Abdomen* much longer than the wings. *Legs* blackish, the femora reddish below, the tibiæ the same, and also reddish on the outside ; all the bristles on the legs white, with the exception of a few on the tarsi, which are black ; the pubescence on legs is whitish and thick.

It seems, on the whole, to belong to this genus rather than to *Alcimus*, as the second submarginal cell is distinctly shorter than the first one, and it is very nearly allied in general appearance to *Philodicius gracilis*, v. d. Wulp, from Arabia ; both these specimens approach somewhat in colouring the typical *Alcimus* species.

Philodicius spectabilis, Loew.

Schrift. Ges. Freund, Nat. Moskau, 1870, iv. p. 20 (1870), et Beschreib. Europ. Dipt. ii. p. 112, 68 (1871).

A female from Amara, R. Tigris, 24. v. 1918, sent me for identification by Mr. P. A. Buxton, who has kindly presented it to the Brit. Mus. Coll., is probably the female of this species. Loew only described the male, from Turkestan, and describes the wing as entirely clear ; in this female the apex is shaded, as usual.

The length of the male was given as 19½ mm. ; this female measures 25 mm.

ALCIMUS, Loew.

Linn. Ent. iii. p. 391 (1848).

With the removal of *Asilus hospes* from this genus to *Philodicius*, this genus is restricted to the South African Region, with the exception of *Alcimus ponticus*, Bigot, described by him as from Persia or Caucasus ; one very much denuded male was all the material he had. A female from South Kurdistan in the Brit. Mus. Coll. appears to agree with his identification, and this species seems more appropriately placed in *Philodicius*.

The species are very difficult to distinguish from each other, all having very nearly allied characteristics; the specific characters seem to lie chiefly in the colouring of the bristles on the legs and on the colour of the femora and tibiae and of their pubescence.

Table of Species.

1. Legs blackish	2.	
Legs reddish	3.	
2. Moustache black and yellow. Legs black, tibiae paler at the base		<i>alamanus</i> , Wlk.
3. Femora black, reddish or yellowish below	4.	
Femora black below, red above	5.	
Femora black on the inner side and sometimes on the outer side	6.	
Femora chiefly black	7.	
4. Bristles on legs chiefly white		<i>tristrigatus</i> , Loew.
Bristles on legs chiefly black		<i>rubiginosus</i> , Gerst.
Very large species: male with four bristles on scutellum; bristles on legs chiefly white. Wings short		<i>brevipennis</i> , sp. n.
Fore femora only, yellowish below. Legs with dense short white pubescence		<i>stenurus</i> , Loew.
5. Bristles on legs and on sides of abdomen all black; only the femora with a black stripe below		<i>porrectus</i> , Wlk.
6. Fore legs with long white pubescence		<i>cinerascens</i> , Ric.
Fore femora with short black bristles below		<i>tæniopus</i> , Rondani.
7. Femora only red at base and apex; bristles on legs chiefly black, some white ones on fore legs.		<i>nigrescens</i> , sp. n.

Asilus fraternus, placed in Kertész's Cat. under this genus, is a species of *Philodicus*.

The following species are unknown to me:—

Alcimus æthiopicus, Bigot, from Abyssinia, and *Alcimus tigris*, Karsch, from E. Africa, both with blackish legs.

Alcimus angustipennis, Loew, from the Cape, a paler var. of *Alcimus longurio*, which is the same as *A. alamanus*, Wlk.

Alcimus sericans, Wied, from unknown locality.

Alcimus mimus and *ludens*, Wied, from Cape and Nubia.

Alcimus limbatus, Macq., from Senegal.

Alcimus alamanus, Walker.

List Dipt. ii. p. 428 (1849), et vii., Suppl. 3, p. 596 [*Trupanea*] (1855);
Loew, Dipt. Süd-Afrik. i. p. 134 (1860).

Alcimus perlongus, Wlk. Ins. Saund. Dipt. i. p. 125 [*Trupanea*] (1851).

Alcimus longurio, Loew, Ofvers. Kongl. Vet.-Akad. Förhandl. xiv. 1857, p. 360 (1858), &c.

Walker's type is a female from S. Africa (*Dr. Smith*), and

other specimens are from S. Africa, Natal, and Zululand; males from Durban and Cape Colony in South African Coll.

Length of type 23 mm. (other females attain to 33 mm.); males 30 mm.

An easily distinguished species, having wholly black legs, the tibiae only paler at the base. Monstacho black and yellow.

Trupanea longipes, Macq., from an unknown locality, is very likely the same as this species; though placed under *Promachus* in Kertész's Cat., there is no doubt, from the figure of the wing given by Macquart, of its generic place.

Alcimus longurio, Loew, is no doubt the same as Walker's species.

This species, mentioned under the name of *Alcimus perlongus*, is stated to be "the most active and voracious enemy of the butterfly." In a paper published by C. N. Barker, F.E.S., "Some Records of Predaceous Insects and their Prey in the Durban Museum," in the 'Annals of the Durban Museum,' ii. pt. 2, p. 94 (1918), Mr. Barker says that, so far, he has come across no other species of this group which preys on butterflies.

Alcimus tristrigatus, ♂, Loew.

Dipt. Faun. Süd-Afrik. i. p. 134, pl. i. fig. 51 (1860); Ricardo, Ann. & Mag. Nat. Hist. (7) vi. p. 175 (1900); Speiser, Schwed. Zool. Exped. Ost-Afrik. p. 99 (1910).

Specimens from Voi and Makindu, Brit. E. Africa; from Pretoria (Distant Coll. and *H. K. Munro*); a male from Smithfield, Orange River (*Kannemayern*), in South African Museum Coll. Speiser has recorded it from Kilimandjaro.

This species is distinguished from *Alcimus rubiginosus*, Gerst., by its usually slightly smaller size, and the thorax is, as a rule, greenish brown, with darker stripes. The bristles on the sides of the abdomen are white, and those on the posterior part of the thorax, described by Loew as black, often appear to be white. Legs brownish or blackish, the underside of all femora and apices of tibiae reddish; bristles white.

Length 30-32 mm. (males), 32 mm. (females). Loew gives 34 mm.

The females from Brit. E. Africa have the ovipositor quite reddish, not blackish brown.

Alcimus rubiginosus, Gerst.

Archiv f. Naturgesch. xxxvii. 1, p. 362 (1871), et in Decken's Reise in Ost-Afrik. iii. 2, p. 387, pl. xvi. fig. 5 (1873); Ricardo, Ann. & Mag. Nat. Hist. (7) vi. p. 174 (1900).

Specimens from Uganda; Somaliland; Buluwayo (*G. W. Bury, E. C. Chubb*); Zomba, British Central Africa (*Rendall*); and a long series of males and females from 150-200 miles west of Kamböve, 3500-4500 feet, 11.-10. 17 (Neave Coll.).

In I. E. E. Coll. specimens from German East Africa and Nyasaland.

A large species, distinguished from *Alcimus tristrigatus*, Loew, by the bristles on the legs being chiefly black and those on the posterior part of the thorax the same colour; the bristles on the sides of the abdomen are black and white. The thorax appears to be usually reddish brown in colour, with the stripes not very distinct.

Length from 30-32 mm. (males), 37-40 mm. (females).

Alcimus brevipennis, ♂ ♀, sp. n.

Type (male), type (female), from junction of Blaauw Krantz and Tugela River, Natal, Oct. 1896 (*G. A. K. Marshall*); and another female.

A very large species, the wings in proportion very short, the male with four stout black bristles on the scutellum; the females, however, with the usual two bristles. Legs reddish, the femora and apices of tibiae blackish, bristles on legs chiefly white.

Length, ♂ 38, ♀ 40-45 mm.

Male.—*Face* reddish, with pale tomentum. *Moustache* pale yellow, and weaker hairs of the same colour continued to the antennæ. *Palpi* red, with yellow hairs. *Beard* white. *Antennæ* red, the third joint black, as long as the first two together, with a stout arista. *Forehead* same colour as face, the bristles yellow, as are those on vertex, bordered on each side with very stout black bristles. *Thorax* light brownish olive, with glistening white tomentum at sides and traces of it between the very narrow brown median stripes and the broader two blackish-brown spots representing the side-stripes; dorsum with very short black bristly hairs and some long white bristles on posterior border intermixed with shorter black ones. *Scutellum* same colour as thorax, with short black bristles and hairs. *Abdomen* with the usual large black spots and side-spots, and with stout white bristles

at the sides. *Genitalia* short, stout, red, with short white pubescence, the pubescence on dorsum of abdomen short, white. *Legs* reddish, the femora black above and the tibiae black at their apices, more widely so on the hind pair; the bristles all white, a few black ones on the tarsi; the pubescence white, on the underside of femora and tibiae longer. *Wings* about a third shorter than the abdomen, veins reddish.

Female identical; owing to the greater length of the abdomen, the wings are still shorter in comparison. *Ovipositor* long, shining red, with two spines at apex.

Alcimus stenurus, Loew.

Dipt. Süd-Afrik. i. p. 136 (1860), et Wien. Ent. Mon. vii. (1863).

Males and females from Deelfontein, S. Africa (*Col. Sloggett*), and a male from Pretoria.

The species was apparently described from one female specimen. It seems very nearly allied to *Alcimus tristrigatus*, and may prove to be only one species.

Loew describes it as "yellowish white pollinose." The chief difference appears to be in the colour of the legs; in this species only the underside of the fore femora and base of tibiae are chamois-coloured or reddish, elsewhere the colour is blackish.

The spots on the abdomen are, perhaps, narrower.

Loew gives the length as $32\frac{1}{2}$ –36 mm. In these specimens the males range from 28–37 mm., the females 36 mm.

Alcimus porrectus, Walker.

Dipt. Ins. Saund. i. p. 126 [*Trupanea*] (1851), et List Dipt. vii., Suppl. 3, p. 613 [*Trupanea*] (1855).

This is placed under *Promachus* in Kertész's Cat.

Type (male), ?S. Africa (Walker Coll.).

Type (female), S. Africa.

A male from Dunbrody, Cape Colony (*Rev. W. O'Neil*), in South African Coll.

A reddish species, apparently not described under any other name, with reddish legs, only the femora with a black stripe below; all bristles on the legs black. Abdomen with large broad black spots and with black bristles at the sides.

Length, ♂ 30, ♀ 34 mm.

Male.—*Face* covered with yellowish tomentum. *Moustache* rather scanty, yellow, with two or more large black bristles near the oral opening. *Thorax* (denuded) reddish, with the

stripes and with black bristles on the posterior part. *Scutellum* same colour, with two black bristles. *Abdomen* reddish, with grey borders round the black spots. *Genitalia* simple, reddish, with whitish pubescence. *Legs* with only black bristles. *Wings* clear, tinged yellow, and greyish at apex.

Female identical. *Scutellum* with three black bristles. Fore femora below with some short black bristles near the base, also present in the male, but not so stout; pubescence on legs short, white.

Both types are in bad condition.

Alcimus cinerascens, Ricardo.

Ann. & Mag. Nat. Hist. (7) vi. p. 176 (1900).

No new specimens have been added to the three males and four females from Nyasaland in the original description.

A species measuring 18–22 mm.

The fore legs with long white pubescence, red with some black colour chiefly on the fore legs.

A male from M'fongosi, Zululand (W. E. Jones), in South African Coll.

Alcimus tenuipus, Rondani.

Ann. Mus. Civ. Genova, iv. p. 292 [*Promachus*] (1873).

Two males from Zigi Tsana, Abyssinia, v. & vi. 1902 (*Degen*); one female from Zomba, Nyasaland (*H. H. Johnston*); one female from Abyssinia, Nov. 1911 (*R. J. Stordy*). In I. E. E. Coll.

A species described by Rondani as nearly allied to *Alcimus stenurus*, Loew. Legs chiefly red, the femora with black stripes on outer and inner sides. The presence of black short bristles on the underside of the fore femora in the female is a characteristic of this species.

Length, ♂ 30, ♀ 35 mm.

Rondani described his type as from Abyssinia.

Alcimus nigrescens, ♂ ♀, sp. n.

Type (male), type (female), and others from Mt. Mlanje, Nyasaland, 1–10. i. 1913 (*S. A. Neave*), in I. E. E. Coll.

A blackish-coloured species with a black and yellow moustache and legs red and black, the femora chiefly black. Wings tinged yellowish brown.

Length, ♂ 24, ♀ 25–30 mm.

Male.—*Face* yellowish brown covered with yellow tomentum. *Moustache* composed of strong yellow and black bristles, the latter surrounding the oral opening; weaker yellow hairs are continued up the centre, and a row of black short bristles extends on each side to the antennæ, which are red on the first two joints, with strong black hairs, the third joint blackish. *Palpi* black, with pale hairs. Beard white. *Forehead* with some weak yellow hairs and a few black ones. Hind part of head with strong black bristles. *Thorax* yellowish brown, paler at the sides, with the usual stripes dark and distinct; pubescence on dorsum chiefly short, black, all bristles black. *Scutellum* with two black bristles and chiefly black hairs. *Abdomen* with the usual spots large, black, the side ones also blackish; bristles at sides black; pubescence black and white on dorsum, very short. *Genitalia* short, stout, black, with white hairs. *Legs* with chiefly black bristles, the femora almost entirely black except at the extreme base and at apices; tibiæ red on their basal half and black beyond; tarsi reddish, black at the joints, pubescence white and thick, though short; the fore femora below with weak bristly black and yellow hairs; fore tibiæ with at least two long black bristles on the outer side and some long weak bristly yellow hairs; the fore tarsi with occasional white bristles below. *Wings* not so long as the abdomen.

Female identical; the two long bristles on the fore tibiæ are usually yellow, and those on the outside of the tarsi also yellow.

Anacinaces gigas, ♀, Enderlein.

Zool. Anz. xliv. 6, p. 257 (1914).

One female (incomplete) from Chauntabun, Siam (*Mouhot*).

Though this specimen is very much mutilated, it appears to be a specimen of the above species recorded from Sumatra (one female). The genus was founded by the author for this species, taking the place of the genus *Erax* in this region, distinguished from it by the very short ovipositor in the female.

It is a large insect, the abdomen covered with golden-yellow short pubescence. Legs entirely black.

Length 28 mm.

Proctacanthus penultimus, Walker.

Dipt. Saund. i. p. 134 (1851), et List Dipt. vii., Suppl. 3, p. 726 (1855)
[*Asilus*].

Type (male) from E. India (Walker Coll.).

A very large reddish-brown species with red legs.

Length 32 mm.

Face with greyish-yellow tomentum ; tubercle large, taking up two-thirds of the face. *Moustache* yellowish. *Talpi* yellow-haired. *Antennæ* reddish yellow, the third darker, short, with a long arista. *Forehead* with yellow hairs on each side. *Thorax* reddish brown, stripes are not discernible ; pubescence short, black. *Scutellum* the same colour, covered with long black bristly hairs. *Abdomen* with short black and yellow pubescence, same colour as thorax, the seventh segment covered with dense dirty white pubescence, appearing as a band, the last segment covered with it in less degree ; the hairs at sides are black on the first two segments, some yellow hairs intermixed ; on the other segments the hairs are yellow. *Genitalia* shining red, simple, but large, with yellow hairs. *Legs* stout, the fore and middle femora with an assemblage of short stout black bristles on their undersides at base ; they are present in a single row only on the posterior pair ; pubescence chiefly yellow and short. *Wings* very large, tinged yellow.

Asilus opulentus, Walker.

Ins. Saund., Dipt. p. 150 (1851), et List Dipt. vii., Suppl. 3, p. 724 (1855).

Type (male) from India (Walker Coll.).

A large species, with the black abdomen covered with bright orange-yellow hairs. Legs yellow, femora black. *Antennæ* black.

Length 20 mm.

Face covered with grey tomentum, the tubercle large. *Moustache* composed of black bristles above and yellow ones below. Beard yellow. *Antennæ* black, the first two joints with black bristly hairs, the third joint longer than the first two together, its arista about two-thirds its length. *Forehead* with black bristly hairs on each side. Hind part of head with black bristles and yellowish soft hairs round head. *Thorax* blackish, with short black pubescence and grey tomentum, longer black hairs on the posterior half. *Scutellum* greenish grey, with long tawny hairs, the posterior border armed with a fringe of stout black bristles. *Abdomen* black, the golden hairs thick on each segment, long and dusky. *Genitalia* short, stout, simple, the upper forceps black, stout, the lower pair shorter, ending in a point, the pubescence on both chiefly pale yellow ; a fringe of black hairs on the posterior border of the underside of the last

segment. *Legs* reddish; femora black, with soft yellow hairs below and yellow pubescence above; fore tibiae with long soft black hairs below and short bristly black hairs on the upper sides and three long black bristles on outer sides; pubescence elsewhere yellow; the other tibiae have only a few of the long black hairs; tarsi heavily armed with black bristles and with black pubescence. *Wings* tinged grey, clear in the centre.

Asilus armatipes, Macq.

Dipt. Exot. Suppl. 5, p. 83, pl. ii. fig. 8 (1855).

Asilus shalumus, Walker, Trans. Ent. Soc. Lond. n. ser. iv. p. 131 (1857).

One male from Golden Buddha Mts., N. of Chunking, Sze-chien Province, 5000 feet (*W. A. Maw*, 1907).

Female type of *A. shalumus* from China (Walker Coll.).

Macquart described his type from N. China.

The species is distinguished by the curious assemblage of short, stout, black bristles on the underside of the middle femora and tibiae in both sexes; it is a large black fly, Macquart giving 16 mm. for the male and 18 mm. for the female; these measure respectively 22 mm. and 27 mm. Otherwise they agree with his description, though his figure of the genitalia does not altogether agree with those of this male.

Male.—*Face* covered with golden tomentum, tubercle confined to the lower part of the face. *Moustache* golden yellow, with a few black hairs. *Antennae* reddish. *Palpi* golden-haired. *Thorax* blackish, with grey tomentum and black pubescence. *Scutellum* denuded, with probably two black bristles. *Abdomen* black, with black bristles, the last segment with deep golden-yellow pubescence; the ground-colour of the segment itself appears the same colour, the anterior segment shows traces of white tomentum. None of this colouring appears in the female. *Genitalia* transparent yellow, the upper forceps large, bifid, the upper tooth short, stout, the lower one long, stout, its broad apex concave, with a short tooth on the outside; pubescence yellow, the lower pair of forceps very small, hardly visible. *Legs* reddish yellow, the fore femora with long yellow and black hairs below, the middle ones with a double row of stout short black bristles on the middle of the underside, the middle tibiae with a row of similar ones, interlocking when the legs are bent up; the hind legs entirely bare, the tibiae with two or three black bristles. *Wings* large, tinged yellow.

Female identical, but the *abdomen* is entirely black, *ovipositor* short. The black bristles on the middle femora are more numerous and nearer the base.

Verrall, in 'British Flies,' vol. v. p. 653 (1909), suggests this little-known species should form a new genus intermediate between *Pamponerus* and *Polyphonus*.

Asilus orientalis, ♂ ♀, sp. n.

Type (male) and type (female) from Khasi Hills, Assam (purchased E. Heyne), and other males and females from the same locality.

A large species rather resembling *Asilus opulentus*, Walk., but the legs are wholly black. Moustache black and yellow. Antennæ brownish, the third joint long.

Length, ♂ 15-17, ♀ 31 mm.

Male.—*Face* black, covered with golden tomentum, the tubercle large, extending over most of the face. *Moustache* composed of golden-yellow fine hairs, with one or more black ones above. *Palpi* yellow-haired. Beard golden-yellow. *Antennæ* blackish, the first joint at its base and the second joint reddish brown, the third joint longer than the first two joints together, cylindrical; the arista stout, about two-thirds of the length of the joint itself, the first two joints have black hairs. *Forehead* with black hairs. *Thorax* denuded, blackish brown, with four narrow yellow tomentose stripes; pubescence short, black, with many longer hairs and bristles posteriorly. *Scutellum* same colour as thorax, with black hairs, the posterior border armed with a fringe of long black bristles. *Abdomen* black, the golden hairs bushy and thick on the first four segments, more particularly so on the sides and on the posterior borders, the remaining segment with much fewer hairs; underside with soft yellow hairs. *Genitalia* black, the upper forceps stout, club-shaped, the lower ones shorter, stout, both with soft black hairs, and some yellow ones on the upper pair at apices; below, a tuft of thick golden-yellow hairs appears, proceeding from the centre of the last segment on its underside. *Legs* black, with reddish appressed pubescence on the hind tibiæ and metatarsi; the pubescence otherwise is black, yellow on the underside of the fore and middle femora, with some long black hairs at the base of fore femora; middle coxæ with some short, strong, black bristles; the middle and hind tibiæ with black bristles below; all bristles on the legs black. *Wings* tinged brown, the posterior branch of the third vein with a

concave curve, the small transverse vein before the middle of the discal cell.

Female identical; the golden or reddish-yellow pubescence on *abdomen* extends on the first three segments, on all the others it is thick but short. *Ovipositor* black, short, appearing almost compressed.

None of the specimens are in very good condition.

Asilus montanus, ♂ ♀, sp. n.

Type (male) from Khasi Hills, Assam (purchased E. Heyne); type (female) from Masuri, N.W. Himalayas, 5000 feet (*Major H. D. Peile*); another male and female from Darjeeling, (Bingham Coll.); other females from Khasi Hills (*F. W. T. Sladen*).

In the Forest Research Coll. are four males from Sattal, Bhowali, Dharniste, and Shann Ket in Kumaon.

A large species. Antennæ yellow and brown, the third joint with a long arista. Abdomen greyish brown, with white segmentations. Legs yellow. Genitalia large, bifid.

Length, ♂ 26, ♀ 25-26 mm.

Male.—*Face* with greyish tomentum, the tubercle small, on lower part of face. *Moustache* of white bristly hairs, the rest of the face bare. *Palpi* with long black bristly hairs. *Antennæ* reddish yellow in type; arista black, as long as the first joint. *Forehead* with yellow hairs. *Thorax* (denuded) blackish brown, with black hairs and greyish tomentum. *Scutellum* with two black or yellow bristles. *Abdomen* (denuded) blackish brown, with yellowish tomentum and yellow hairs, which latter are also present on the sides with some yellow bristles. *Genitalia* large, the upper forceps black, wide, bifid, the two teeth widely separated, under pair very small; underside of last segment fringed with yellow hairs; pubescence elsewhere black. *Legs* reddish yellow, knees slightly darker; pubescence scanty, yellow, with long fine hairs and bristles below; tarsi with black bristles. *Wings* clear, with shaded apices and posterior border; the posterior branch of the third vein slightly concave, the small transverse vein beyond the middle of the discal cell; veins black.

Female identical. *Palpi* white-haired, with some black long bristles. *Antennæ* with the third joint brown. *Thorax* blackish brown, with grey tomentose stripes visible. *Scutellum* with two yellow bristles. *Abdomen* with paler segmentations and pale hairs on them; some white bristles at sides only. *Ovipositor* small, shining black; underside of

abdomen with white hairs; on the dorsum yellowish or greyish tomentum is present. *Wings* with yellow veins.

Asilus depulsus, ♂, Walker.

Proc. Linn. Soc. London, vii. p. 207 (1864).

Type (male) from Menado.

A pale-coloured species, with reddish-yellow legs; the abdomen covered with yellowish tomentum. *Antennæ* black. *Moustache* whitish.

Length 14 mm.

Face covered with yellow glistening tomentum, tubercle only on the lower part of face. *Moustache* composed of stout black and yellow bristles. *Palpi* with yellow hairs. *Beard* whitish. *Face* above *moustache* bare. *Antennæ* blackish, the second joint reddish, with yellow hairs, the first with short, stout, black bristles, the third longer than the two joints together; *arista* as long as or longer than the joint. *Forehead* with tomentum as on the face and with yellow hairs on each side. *Hind part of head* with black bristles and some yellow ones. *Thorax* blackish brown, with greyish-yellow tomentum, the median broad stripe very narrowly divided, joining again posteriorly, the side-stripes distinct; pubescence short, black, with longer black bristles posteriorly. *Scutellum* with two yellow bristles. *Abdomen* covered with yellowish tomentum and short yellowish pubescence, yellow bristles at sides. *Genitalia* very large, shining reddish brown; the upper forceps very large, trifid; the upper tooth short, reddish, with yellow hairs, the lower tooth large, solid, forming the oblong apex; between the two is a small reddish spine-like tooth, the lower forceps long, the basal part large, triangular, the apical part consisting of a stout point bent inwards; no pubescence is visible except some long yellow hairs on the upper side at the base, but the insect is in bad condition. *Legs* reddish yellow; femora with a short black stripe, faint on the hind pair; the knee and tarsi, with the exception of the metatarsi, also black; the fore femora with fine long yellow hairs below, the others with only a few, and stout black bristles; fore tibiæ with a few hairs below; elsewhere the pubescence is yellow, dark on the tarsi; all bristles black. *Wings* large, clear, with the usual shading at apices and posterior borders.

Asilus contortus, ♀, Walker.

Proc. Linn. Soc. London, i. p. 117 (1857).

Type (female) from Borneo (Walker Coll.).

A species with yellowish pubescence on the abdomen. Legs reddish yellow. Moustache black and yellow.

Length 19 mm.

Face covered with glistening yellow tomentum; the tubercle large, covered by the black and yellow bristles of the moustache. *Palpi* black-haired. *Antennæ* reddish brown, the third joint darker, the first two joints with black hairs, the third short, barely as long as the first joint; the arista nearly twice as long as the joint itself. *Thorax* blackish brown, with dark stripes and greyish-yellow tomentum; pubescence black. *Scutellum* denuded, yellow soft hairs are present. *Abdomen* brownish, with fulvous tomentum and yellow hairs on the segmentations which are pale in colour; the yellow hairs are thick at the sides, the last segment almost bare, with a little black pubescence; the ovipositor short; underside with some soft yellow hairs. *Legs* with traces of a black stripe on the femora; tarsi black. *Wings* tinged yellow, the posterior branch of the third vein bent inwards a little; the other branch has a very short appendix at its base.

Asilus superveniens, ♀, Walker.

Proc. Linn. Soc. London, iii. p. 128 (1859).

Type (female) from Key Island.

A medium-sized greyish-black species. *Antennæ* blackish. Moustache black and yellow. Legs red; femora with black stripe.

Length 20 mm.

Face with golden tomentum, the tubercle on the lower part of the face. *Palpi* black-haired. *Antennæ* with the first two joints black, with black bristly hairs, third joint wanting. *Forehead* with black bristly hairs. *Thorax* blackish, with grey tomentum and black pubescence; stripes are apparent and black bristles are present posteriorly. *Scutellum* with black hairs and two stout black bristles. *Abdomen* brownish, covered with yellow tomentum and black pubescence; ovipositor very short, yellow bristles at sides of abdomen. *Legs* reddish yellow; femora with black stripes not quite reaching the apex; the tarsi, excepting the metatarsi, all black, bristles all black. *Wings* clear, grey at apices and on fore borders.

A female from the New Hebrides is very near this male.

Asilus determinatus, ♂, Walker.

Proc. Linn. Soc. London, iv. p. 107 (1860), et v. p. 265 (1861); Ricardo, Ann. & Mag. Nat. Hist. (8) vi. p. 449 (1913).

Type (male) from Makessar.

The female type described by Walker is not to be found; from the description of the abdomen it may belong to *Neositamus*, in the group of *philus*, Wlk.

This male has half the abdomen broken off; Walker gives its length as 20–24 mm.

Antennæ black. *Moustache* black and yellow. *Palpi* yellow-haired. *Thorax* blackish, with well-marked stripes. *Scutellum* with four or more black bristles and white hairs. *Abdomen* blackish, the first two segments with yellow tuft-like hairs. *Legs* reddish yellow; femora black above; tibiæ with black apices; tarsi black; pubescence on legs golden-yellow, black on the dark parts; the fore and middle tarsi stout, armed heavily with short black bristles. *Wings* large, tinged yellow.

Asilus introducens, ♀, Walker.

Proc. Linn. Soc. London, iv. p. 108 (1860), et vii. p. 232 (1864); Ricardo, Ann. & Mag. Nat. Hist. (8) xi. p. 449 (1913).

Type (female) from Makessar.

? Type (male) from Waigiou.

The female has tuft-like greyish-white hairs on the first two segments of abdomen; the male has, in addition, on the fifth and sixth segments grey-white tomentose bands with white pubescence, and is probably a different species. Walker places it with the female with a query.

Female has black *antennæ*. *Moustache* yellowish white. *Abdomen* has the *ovipositor* broken off; Walker describes it thus:—" *Abdomen* has nearly half the apical point stylate." *Scutellum* with three weak black bristles. *Legs* stout, reddish; femora blackish at base and at apices; tibiæ with black apices, and tarsi black.

Male has more slender legs, the tarsi not so dark. *Genitalia* (imperfect) large, black, shining, with white hairs above and below. *Scutellum* with two black bristles.

Walker gives the length as 16–24 mm.

Asilus maculipes, ♀, Walker.

List Dipt. vii., Suppl. 3, p. 605 [*Trupanea*] (1855).

Type (female) from Hong Kong, abdomen broken off. Walker described it as 20 mm. long, and the abdomen

thus:—"Abdomen deep black, about twice the length of the thorax, with pale gilded tomentum on each side of the broad part, which is about twice the length of the apical style."

Moustache yellow. *Antennae* black. *Scutellum* covered with long yellow hairs. *Legs* very similar to those of *Neoitamus philus*, Wlk., the fore tarsi stout and heavily armed with black bristles. Wings large, tinged yellowish.

From the description of the female abdomen in this and in *determinatus* and *introducens* they might possibly all belong to the *Neoitamus* genus, in the group of *N. philus*, Wlk.

In fact, *Asilus maculipes* itself may be a specimen of *Neoitamus philus*, or, at any rate, a species very nearly allied to it; but till further material is available, the matter must be left in abeyance. Walker placed it in the genus *Promachus*.

Asilus pulcher, ♂, sp. n.

Type (male) from Jhajra, Dehra Dun, 6. 12. 1912, in Forest Research Zool. Coll.

Another imperfect specimen from Hadagalli, Ceylon "in a jola-field," in Brit. Mus. Coll.

A handsome species, nearly related to the European and North-African species *Asilus barbarus*, L., but distinguished from it by all the femora being red, the fore femora with only weak bristly hairs, no strong black bristles, and the *genitalia* are bright red, not dark-coloured, and somewhat shorter.

The abdomen is entirely black. Thorax ochraceous tawny. Legs red. Wings yellowish, brown at apex and on posterior border.

Length 21 mm.

Face reddish, covered with yellowish tomentum, the lower part of the face is raised. *Moustache* of white bristles, consisting of a perfect row of bristles above oral opening and a few bristles above. *Palpi* reddish, with yellow hairs. Beard white. *Antennae* red, with some white tomentum and yellow hairs, third joint wanting. *Forehead* same as face, with yellow hairs. *Thorax* with yellow pubescence and indistinct dark brown median stripe, divided in middle anteriorly, yellow bristles on posterior half. *Scutellum* same colour as thorax, with yellow hairs and two yellow bristles on border. *Abdomen* velvety black, with white tomentose spots on the second, third, and fourth segments at sides; the three last segments covered with grey pubescence, absent, however, on the median line of dorsum; pubescence of abdomen chiefly black on the first four segments, on the last

three chiefly yellow; underside as above. *Genitalia* bright chestnut-colour, small, short, the upper forceps with truncated ends, the lower side with a short apex, the under forceps large and stout, more than half as long as the upper pair, both with yellow pubescence. *Legs* reddish yellow, with yellow pubescence and yellow bristles. *Wings* large, tinged yellow, the veins yellow; the grey shading of apex reaches nearly to the base of the cubital fork; small transverse vein just beyond the discal cell.

In the specimen from Hadagalli the antennæ are perfect, the third joint as long as the first two joints, the arista rather short.

Asilus paterculus, Walker, did not belong to this genus, was in a fearfully dirty condition, and fell to pieces, so that it should be deleted from the list altogether.

Asilus prufintiens, Walker, from E. India, is not to be found, and should be deleted from the list, as also *Asilus latifascia* from Singapore.

The following species described under *Asilus*, in sensu lato, are unknown to me:—

Asilus atripes, F., from India. Schiner could not identify this species.

Asilus pusio, Wied, from India and Java.

Asilus laetus, Wied, from E. India.

Asilus bifasciatus, Oliv., from India. The colouring of the wings is described as white in the middle, dark elsewhere.

Asilus hircus, F., from Sumatra.

Asilus ephippium, *nudipes*, *nigrimystaceus*, and *trifarius*, Macq., all from India. The first-named is recorded from Persia by Becker.

Asilus appendiculatus, *clavipes*, *rufibarbis*, Macq., and *barbatus*, Dol., all from Java.

Asilus minusculus, Rondani, from Borneo.

Asilus limbipennis, *maculifemora*, and *misao*, Macq., all from N. China.

Asilus condecorus, Wlk., from Gilolo and Ternate. Type is lost.

The following species of *Asilus* in sensu lato from S. Africa are not known to me:—

Asilus gabonicus, *albitarsata*, and *scutellatus*, Macq., from W. Africa.

Asilus forficula, *nigribarbis*, and *natalensis*, Macq., from S. Africa.

Asilus dioctroformis, Macq., from Mauritius.

Asilus alaster and *schedius*, Walker, from S. Africa, and *Asilus enitens*, Wlk., from Arabia, should be deleted from the list, as the types cannot be found.

Asilus in the narrowest sense is not represented in any of the collections I have had access to from this region.

PAMPONERUS, Loew.

Linn. Ent. iv. p. 135 (1849).

A genus distinguished by the milky-white base of wings in the male and by the strong spines on the sixth abdominal segment at sides. The females are not so easy to distinguish from species of *Asilus*.

With the exception of the well-known European *Pamponerus germanicus*, the genus so far appears confined to the Celebes and neighbouring islands.

Pamponerus nigrifulus, v. d. Wulp, from the Moluccas, is unrepresented in the collections I have had access to.

Pamponerus mendax, ♂, Walker.

Trans. Ent. Soc. London, n. ser. iv. p. 130 [*Asilus*] (1857), et Proc.

Linn. Soc. London, v. p. 260 [*Asilus*] (1861); v. d. Wulp, Tijds. v.

Ent. xli. p. 135, pl. iv. figs. 9-10 (1898), et xlii. p. 55 (1899); Ricardo, Ann. & Mag. Nat. Hist. (8) xi. p. 451 (1915).

Pamponerus areolatus, Wlk. Proc. Linn. Soc. London, v. p. 260 [*Asilus*] (1861).

Type (female) of *areolatus*, type (male) of *mendax*, both from Menado, Celebes (Walker Coll.).

A species with wholly dark legs and abdomen, and with the wings in the male milky white at the base; in the female, as v. d. Wulp points out, the wing is brownish and only a little clearer at the base; the long thick pubescence on the femora and tibiae in the male are only represented in the female by a few black long bristly hairs.

Length, ♂ 13, ♀ 16 mm.

Pamponerus areolaris, Walker.

Proc. Linn. Soc. London, v. p. 260 (1861); Ricardo, Ann. & Mag. Nat.

Hist. (8) xi. p. 450 (1915).

Type (male), type (female), and two females from Makassar, Celebes.

A species with reddish legs, the middle and posterior tarsi black. The *wings* as in *Pamponerus mendax*, but paler in colouring, in the female tinged brownish yellow and only clear in patches in the posterior cells and extreme base of posterior border. *Abdomen* covered with brownish-yellow tomentum and with dark median large spots; the segmentations lighter; pubescence short, black. *Genitalia* black, shining, with black hairs, large and complicated, in appearance rather like the abdomen of an *Asilus* species, but the strong pair of spines on the sides of the sixth segment distinguish the male; they are not present in the female, which has a short black *ovipositor* and the last segments covered with tawny short pubescence. *Face* golden-yellow as in *Pamponerus mendax*, but the *moustache* is yellow, with some black hairs above. The *antennæ* reddish yellow, the third joint darker, with a long arista, and shorter than the first joint.

Length, ♂ 23, ♀ 21-22 mm.

Pamponerus alligerus, ♂, sp. n.

Type (male) from Sula Islands was marked type with MS. name of *alligerus*, which is now adopted for this species, which is very similar to *Pamponerus areolaris*, but the *moustache* is wholly black and the fore tarsi are also black. *Genitalia* larger, with the upper forceps club-like at the end, whereas in the above-mentioned species it ends in a fine point, and in this species the black hairs are less numerous and much shorter.

Length 25 mm.

TRICHONOTUS, Loew.

Öfv. Kongl. Vet.-Akad. Förhandl. xiv. 1857, pp. 362 & 365 (1858).

Trichonotus pegasus, Loew.

L. c. et Dipt. Südafrik. i. p. 165 (1860).

One male from Narok, Masai Reserve, Brit. E. Africa (*Luckman*).

Loew described his specimen from Kaffraria, and gave the length as 15 mm.; this male is slightly longer.

A species easily distinguished by its general likeness to the specimens of *Dysmachus*, but the wing in the male is much dilated. *Moustache* as in *Dysmachus*, white, bordered with black hairs. *Scutellum* with thick white hairs and no

bristles. *Legs* black; apparently the yellow colour is more predominant than in Loew's specimen, as all the tibiae and the tarsi are yellowish.

Dysmachus robustus, ♂ ♀, sp. n.

Type (male), type (female), and other males and females, all from Pretoria (*Miss J. Brincker*).

In Loew's Division A. II.¹.

It differs from *Dysmachus erythracanthus*, Hermann [*Lophonotus*], from the Cape, by the absence of any bristles on the underside of the abdomen, and from *Dysmachus chalcogaster*, Wied, by the presence of bristles on the dorsum of abdomen. Hermann places his species under Division A. II.^{2a}.

A large robust species, measuring, ♂ 25-28, ♀ 23-29 mm.

Male.—*Face* covered with yellowish-white glistening tomentum; tubercle on lower part of face. *Moustache* as in *Dysmachus*, thick, reaching the antennae, composed of long yellowish-white hairs, also extending round the oral opening. *Beard* whiter. *Palpi* yellowish, white-haired. *Antennae* black, the first two joints with numerous long black bristles on lower sides, one or two white ones intermixed; third joint linear more or less, the arista about the same length, the joint not much longer than the first joint. *Forehead* same colour as face, with long black hairs. *Hind part of head* with white bristles curved over. *Thorax* blackish, with grey tomentum; a median undivided black stripe, very distinct, bordered on each side by an olive-green stripe. *Mantle* black, short on the anterior half, longer behind, with many long whitish bristles bordering it; all bristles white; the pubescence on dorsum short, black, white hairs posteriorly on sides. *Scutellum* covered with long, whitish, bristly hairs, a few short black hairs intermixed, but no strong bristles on border, only the white bristly hairs forming a continuous fringe. *Abdomen* blackish, covered with white tomentum on sides and on dorsum, with the large brownish tomentose spots, on which a distinct, narrow, median, black stripe is visible; pubescence chiefly yellowish, short, some yellow bristles at sides; underneath some weak yellow hairs. *Genitalia* very large, black; upper forceps massive, two-pronged, the upper one with some black short hairs, the lower one with white hairs rather spine-like, both widely separated, the lower one short and small, palpus-like, with white hairs, the plate above them black, with white hairs on border. *Legs* wholly black, with the exception of the fore and middle tibiae, which are obscurely red at extreme base; pubescence

white and fairly thick on legs, the bristles all yellowish; a few black ones on fore femora, which have white hairs below. *Wings* clear, veins yellowish red, the small transverse vein beyond the middle of the discal cell.

Female identical, the red on the tibiæ very slight or non-existent. *Ovipositor* black, with white hairs and yellowish ones at apices, not much longer than the last segment.

? *New Genus near Dymachus.*

A male specimen from Gundumri, Bhandaro, C.P., India, sent me some years ago by A. D. Imms, has a striking resemblance to a species of *Dymachus*, a genus as yet with no representative in the Oriental Region. This specimen will probably require a new genus, as it has no tubercle on the face and no widening of the base of the second posterior cell. Being in a bad condition, with no antennæ or legs, it is useless to describe it further; but it is placed in the Brit. Mus. Coll. in the hope that other specimens may be forwarded in the future.

SYNOLCUS, Loew.

Öfvers. Kongl. Vet.-Akad. Förhand. xiv. 1857, pp. 361, 362 (1858).

This genus is distinguished by the dilated wings in the male and by the bulging of the discal cell into the first posterior cell.

It is confined as yet to the South African and Oriental Regions, three species being known from the former and five from the latter.

Table for Species of Synolcus from the South African Region.

1. Legs chiefly yellow	2.
Legs chiefly black	3.
2. Yellowish species. Femora with a short black stripe	<i>dubius</i> , Macq.
Black and brownish-grey species. Femora with a long black stripe	<i>tenuiventris</i> , Loew.
3. Wings with a dark spot at apex. Dark-coloured smaller species	<i>acrobaptus</i> , Wied.

Synolcus dubius, Macq.

Dipt. Exot., Suppl. i. p. 217, pl. viii. fig. 15 [*Asilus*]; Loew, Dipt. Süd-Afrik. i. p. 149 (1860).

Two females from Umbilo, Natal (*E. C. Chubb*) (1913); one female from Karkloof, Natal (*G. A. K. Marshall*) (1897). In Durban Coll. are two females from Umbilo,

Natal (*Bevis*), and two others from same locality, and one male from Upper Tongaat, Natal (*Barker*).

A species chiefly yellow in colour, legs with a short black stripe on the femora, tarsi with the exception of the meta-tarsi black. *Antennae* yellow, the third joint blackish. *Moustache* yellow. *Thorax* with a broad black median stripe and side ones. *Abdomen* with black median spots. *Wings* clear.

Length of these females 19–22 mm.

Synolcus tenuiventris, Loew.

Dipt. Süd-Afr. i. p. 147 (1860).

A male from Karkloof, Natal (*G. A. K. Marshall*) (1897); another from Upper Tongaat, Natal (*C. N. Barker*) (1919); and another from Port Natal.

Two males from Lucia Bay (*Bell Marley*), in Durban Museum Coll.

A darker-coloured species than *Synolcus dubius*. *Abdomen* ashy-grey with dark spots. *Wings* much dilated.

Length 18–25 mm.

Loew has described this and the following species, *Synolcus acrobaptus*, very fully.

Synolcus acrobaptus, Wied.

Ausszweifl. Ins. i. p. 449 [*Asilus*] (1823); Schiner, Verh. zool.-bot. Ges. Wien, xvi. p. 685 (1866); et xvii. p. 404 (1867).

Synolcus signatus, Loew, Dipt. Süd-Afr. i. p. 148, pl. ii. figs. 1, 2 (1860).

One male from Cape Town (*Péringuey*), in the South African Museum Coll.

A smaller species than *Synolcus tenuiventris*, and at once distinguished by the dark spot at apex of wing. A dark-coloured species with wings much dilated in the male, the tibiae dull testaceous on the anterior and middle pair.

Length, ♂, 14 mm.

Asilus incisuralis, Macq., from the Cape, is described by him as having the wings dilated in the male and legs chiefly black; but the wings are declared to be a little brownish, clear at base and in centre. Is it possible that this is a species of *Synolcus*?

Table for Species of Synolcus from the Oriental Region.

- | | |
|---|----|
| 1. Wings very suddenly dilated in males | 2. |
| Wings only slightly dilated in males, in one species not at all | 3. |

- | | |
|---|--------------------------------|
| 2. Reddish-yellow species. Legs almost wholly yellow | <i>xanthopus</i> , v. d. Wulp. |
| Brownish species. Legs with the femora black at apices | <i>annulatus</i> , F. |
| Brownish species. Legs with a long black stripe on the femora | <i>iamenus</i> , Wlk. |
| 3. Small pale species. Legs with a black stripe on anterior and middle femora | <i>duvaucelii</i> , Macq. |
| Brownish species. Legs with a short black stripe on the femora | <i>benjalensis</i> , Macq. |

Synolcus xanthopus, Wied.

Zool. Mag. i. p. 3 (1819); Dipt. Exot. p. 186 [*Asilus*] (1821); et Anszweiff. Ins. i. p. 436 [*Asilus*] (1828), etc.
 ? *Asilus sundaicus*, Jaem. Abhandl. Senckenberg. Naturforsch. Ges. vi. p. 363 (1867).

Two males from Java (Walker Coll.).

One male from Chantabun, Siam (*Mouhot*); and a series of males and females from different localities in Siam (*Robinson and Annandale*), 1901.

Male and female from Port Dixon, Malay Peninsula (*G. Meade Waldo*), 1908.

Male from Kuala Lumpur, Selangor (*Dr. H. E. Durham*), 1902.

Male from Sungei Penok, Korinchi Valley.

Two females from Pasir Ganting and Korinchi, Sumatra.

A bright yellowish species with wholly yellow legs, only the apices of the hind femora dark. *Abdomen* with dark spots either in three rows or merged into one large one, in some specimens the abdomen is altogether darker, as observed by v. d. Wulp (*Tijd. v. Ent.* xli. p. 142, 1898) in two males from Java, the thorax being also darker.

Genitalia appear similar to those of *S. annulatus*, but the tuft of hairs below is not so noticeable.

Wings much dilated in males.

Length, ♂ ♀, 19–25 mm.

Synolcus annulatus, Fabr.

Syst. Ent. 794 [*Asilus*] (1775), etc.

Asilus flavicornis, Macq. Dipt. Exot. i. (2) p. 258 (1838).

Asilus barium, Wlk. List Dipt. ii. p. 426 (1849).

Type of *Asilus barium*, a male from Ceylon (*Wenham*).

Three females from Dehra Dun, India Forest Research Zool. Coll., and a series of males and females from different parts of Ceylon (*Yerbury, Green*), in Brit. Mus. Coll.

In I. E. E. Coll. a male from Cooro Sidapur, Rockhill (T. V. R. Coll.), and a female from Coorg Sanivarsandi, Hansey Estate (T. V. R. Coll.), S. India.

A species distinguished by the darker colour of thorax and abdomen from *Synolcus xanthopus*, v. d. Wulp. *Antenna* usually yellow. *Legs* yellow with usually black apices on all the femora; this will serve to distinguish the species from the dark varieties of v. d. Wulp's species mentioned by him. *Wings* much dilated in males. *Genitalia* long, the upper forceps simple, the under pair smaller, a long tuft of brownish or yellowish hairs situated between and above them; pubescence yellow and black.

The male from Rockhill has the legs almost entirely yellow, only the extreme apices of the middle and posterior femora are black.

Length, ♂ 18-21, ♀ 20-23 mm. The Walker type measures 21 mm.

Synolcus iamenus, Walker.

List Dipt. ii. p. 428 (1849), et vii., Suppl. 3, p. 728 (1855).

Type (male) from India and another (*Mrs. Hamilton*). Males and females from Dehra Dun in Forest Research Zool. Coll.

A male from Guindy, Madras, and a female from Kotagiri, S. India, 6000 ft., both in Cragg Coll.

Two males from Cooro Mercara, 4500 ft. (T. V. R. Coll.), in I. E. E. Coll.

A species distinguished by black stripes on all the femora, otherwise the *legs* are yellow. General colouring the same as in *Synolcus annulatus*, F. *Abdomen* with large brown spots and grey segmentations. *Genitalia* with long white hairs above and below, and some black hairs intermixed. *Wings* in male much dilated.

Length, ♂ 15-25, ♀ 21 mm.

The series of specimens from Dehra Dun were caught "on grass."

Abdomen in well-preserved specimens has three lines of dark oblong spots forming stripes, but not united, lying on obscure large spots.

Synolcus duvaucelii, Macq.

Dipt. Exot. i. (2) p. 257, pl. xii. fig. 1 (1838) [*Asilus*].

Two males from India.

A smaller paler species than *Synolcus iamenus*, Wlk., distinguished by the much slighter dilation of wing in the male. *Abdomen* ashy-grey with three series of small dark spots. *Legs* as described by Macquart, with the exception of the anterior and middle femora, which have the black

stripe running almost the whole length of femur, not only black at the apex. *Genitalia* with large black upper forceps, covered with long white hairs above and below, the under forceps small, the yellow organs long. The figure by Macquart appears to be that of a female, and the bend of discal cell into the first posterior cell is not shown in the figure of the wings, which are only slightly dilated in these specimens and are quite clear.

Length 18 mm., Macquart gives 16 mm.

In spite of the figure of wing, I believe this species belongs to this genus.

Synolcus bengalensis, Macq.

Dipt. Exot. i. (2) p. 257, pl. xii. fig. 2 [*Asilus*] (1838); v. d. Wulp, Tijd. v. Ent. xli. p. 142 (1898), et xlii. p. 55 (1899).

One female from Coimbatore (T. V. R. Coll.), S. India, in I. E. E. Coll.

One specimen from Bangalore, same collection.

These appear to belong to the above species, which is distinguished from *Synolcus iamenus*, Wlk., by the *short* black stripe on the femora confined to the apical third, and according to v. d. Wulp by the non-dilation of the wings in male.

Length circa 22 mm. of above female.

V. d. Wulp removed it to this genus.

Heligmoneura congedus, ♂ ♀, Walker.

Ins. Saund., Dipt. p. 133 (1851); et List Dipt. vii., Suppl. 3, p. 726 (1855).

Type (male), type (female), from India (Walker Coll.).

Both these specimens are in bad condition; they appear to be species of this genus, the *wings* are quite clear. *Antenna* black. *Moustache* white. *Legs* yellow with the apices of the femora and tarsi dark.

Length 14 mm., but the abdomen is imperfect.

Heligmoneura gnava, ♀, v. d. Wulp.

Tijd. v. Ent. (2) vii. (xv.) p. 242 [*Mochtherus*] (1872); Ricardo, Ann. & Mag. Nat. Hist. (9) iii. p. 73 (1919).

A male from Takala, Kumaon; and males and females from Dehra Dun, "on grass."

The males evidently are the males of this species. The *legs* are entirely yellow, the knees with two dark spots. *Genitalia* reddish yellow; the upper forceps large, bifid, the under pair small, both with short black pubescence.

Heligmoneura trisignata, ♂ ♀, sp. n.

Type (male), type (female), and paratypes (two males, one female), all from Veddhechalam, S. Arcot District (P. G. Coll.), one paratype (male) from Adoni, Bellary District (Y. R. Coll.), in I. E. E. Coll.

A species nearly allied to *Heligmoneura indiannus*, Ricardo, from Katajiri, S. India, but distinguished by the *genitalia* in the male and by the strong, long, black bristles on the fore tibiæ, whereas in the above species there are only weak yellowish bristles. *Abdomen* with a distinct series of three brown spots, median and side ones, with stout yellow bristles at the sides. *Genitalia* reddish brown; the upper forceps large, club-shaped, with black pubescence; the lower pair reddish yellow, with long slender apices. *Ovipositor* about as long as the last two segments; the last segment in the male is raised on its underside. The bristles on the fore femora below are black. *Wings* with the transverse vein below the middle of the discal cell.

Length, ♂ 13-15, ♀ 15 mm.

TOLMERUS, Loew.

Linn. Ent. iv. p. 94 (1849).

The only species recorded from the Oriental Region are *Tolmerus nicobarensis*, Schiner (see remarks on this species under my new species *Tolmerus parvus*), and *Tolmerus butavensis*, de Meijere, Tijl. Ent. lvi. p. 61 (1914), not represented in the Brit. Mus. Coll., described as 10 mm. in length. *Legs* black, reddish-yellow haired below the tibiæ and tarsi; the bristles chiefly black, with long weak white bristles on the underside of femora and on the fore tibiæ. *Moustache* black, yellow below. *Scutellum* with four black bristles. *Abdomen* black, with pale segmentations.

Also *Tolmerus agilis*, Wied, a male described from Java with a white moustache, not represented in the Brit. Mus. Coll.

From the South African Region only, *Tolmerus pammelus*, Speiser, Schwed. Zool. Exped. p. 101 (1910), from E. Africa, has been described.

Tolmerus pammelus, ♂ ♀, Speiser.

Schwed. Zool. Exped. p. 101 (1910).

One female from Mara River, Masai Reserve, Brit. E. Africa, 10. 11. 14 (*Capt. A. C. Luckman*).

A species distinguished by its wholly black legs. *Moustache*

and *antennæ* black. Bristles on *legs* entirely black, with the exception of a few yellow hairs on the underside of hind femora.

Length, ♀, 17 mm.

Tolmerus nigripes, ♂ ♀, sp. n.

Type (male), type (female), and a series of males and females from Mt. Mlanje, Nyasaland (*S. A. Neave and J. B. Davey*).

A small black species, distinguished from *Tolmerus pam-melus*, Speiser, by the absence of any close-lying yellow pubescence on the legs, and the bristles on the legs are chiefly white.

Length, ♂ 12-13, ♀ 11-13 mm.

Male.—*Face* covered with glistening yellow tomentum. *Monstache* composed of yellow bristles below and black ones above and at sides, placed on the large round tubercle. Space between monstache and *antennæ* devoid of any hairs. *Antennæ* black, the first joint with black bristly hairs, the second joint small, the third longer than the first two together, and the arista about half its length. *Forehead* with a few black hairs. *Thorax* covered with greyish-yellow tomentum, and with a very distinct black median stripe, cleft anteriorly, sides with two black spots; pubescence on dorsum consists of black hairs and black bristles, which latter reach the median suture, a row on each side. *Scutellum* same colour as thorax, with yellow hairs and two black bristles. *Abdomen* appearing the same colour as thorax at the first appearance, the brown spots on each segment not very dark, the segmentations paler; pubescence on dorsum black, at sides yellow. *Genitalia* small, black, the upper forceps stout, conical, the lower pair very short, all with some black hairs and black or yellow bristles below and at apices of upper forceps. *Legs* wholly black; the coxæ with greyish tomentum, the bristles yellow, rather long, a few black ones on the tarsi; some short pale yellow hairs on the underside of femora and sides of tibiæ, but not appressed; the hind tibiæ are reddish at their extreme base; the yellow bristles are longest on the fore tibiæ. *Wings* clear, veins dark brown, the small transverse vein about the middle of the discal cell, the posterior branch of the third vein with a slight bend in the middle.

Female identical. *Ovipositor* black, as long as the last two segments.

Tolmerus rubripes, ♂ ♀, sp. n.

Type (male), type (female), and a series of males and females from Mlanje, Nyasaland (*S. A. Neave*), 1913.

A small species distinguished from *Tolmerus pammelus*, Speiser, and *Tolmerus nigripes*, sp. n., by the red colour of the tibiae at base and the curve in the posterior branch of the third vein is more pronounced.

Length, ♂ 13-14 mm., ♀ 13-14 mm.

Male similar to *Tolmerus nigripes*, sp. n., except in the following particulars:—

Thorax with a third black at sides anteriorly. *Scutellum* with fewer or no yellow hairs. *Abdomen* with brighter-coloured segmentations, and the yellow bristles at sides are very noticeable. *Genitalia* rather smaller; the upper forceps slighter, and the lower ones a trifle longer, no black bristles are present; pubescence short, yellow. *Leys* black; the tibiae dull red on basal third; the tarsi reddish yellow at base of joints, the red colour is more extended on the hind tibiae; pubescence and bristles yellow as in *Tolmerus nigripes*. *Wings* clear, but with pale grey shading at apex and on hind border.

Female identical. *Ovipositor* shorter.

Tolmerus hirsutus, ♂ ♀, sp. n.

Male (type) from Mara River, Masai Reserve, Brit. E. Africa (*Copt. A. C. Luckman*); female (type) from same locality.

A species distinguished by the short pale pubescence on the black legs; the tibiae being reddish yellow at their base, extending on the outer side nearly to the apices of the middle and hind pair, the bristles are chiefly white on the fore legs, and black and white on the others; the fore femora with long white hairs and a few weak bristles.

Length, ♂ 12, ♀ 13 mm.

Male.—*Face* with moustache black above, a few white hairs below. *Thorax* with three black side-spots. *Scutellum* denuded. *Abdomen* has a faint longitudinal stripe down the middle, composed of small brown spots superimposed on the large faintly brown ones. *Genitalia* black; the upper forceps stout, notched at their apices with dull yellow pubescence and small black bristles on the lower edge of the under pair. *Wings* greyish, the curve in the lower branch of the third vein not pronounced.

Female identical. *Moustache* chiefly black. *Ovipositor* black, not quite so long as the last two segments.

Tolmerus angularis, ♂ ♀, sp. n.

Type (male), type (female), from Mussoorie, India, Oct. 1907 (Imms Coll.), and two other females from same locality and collection.

A species distinguished by the very sharp curve in the posterior branch of the third vein of wing; a black species with reddish-yellow pubescence on the abdomen and the legs. *Moustache* in the male black with reddish-yellow bristles intermixed below, in the female chiefly black. *Abdomen* with distinct grey tomentose segmentations.

Length, ♂ 15, ♀ 15-16 mm.

Male.—*Face* bronze-green, covered with yellowish tomentum, the tubercle large, no hairs beyond the moustache towards the antennæ. *Palpi* black-haired. *Moustache* reddish yellow. *Antennæ* black, the first two joints with black bristly hairs. *Forehead* with many long, black, rather bristly hairs. *Thorax* bronze-green, with a row of black hairs down the centre and on posterior half, elsewhere the pubescence is short, black, the ashy-grey tomentum forms two indistinct stripes and is present on the sides. *Scutellum* with fine, rather long, black hairs, a few reddish-yellow ones intermixed, no bristles on posterior border. *Abdomen* blackish, with short black pubescence, and with long reddish-yellow hairs on sides and below, and the same-coloured bristles at the segmentations on sides. *Genitalia* small, covered with black hairs above and reddish-yellow ones below. *Legs* black; the fore femora and fore tibiæ with long thick yellow hairs below, the other femora with the same, not so thick; the tibiæ all with long yellow bristles intermixed with black ones; the hind femora armed with many short yellow bristles below; all tarsi with black bristles only. *Wings* clear with grey shading, leaving the centre clear, the small transverse vein situated beyond the middle of the discal cell.

Female identical, with fewer, though longer, yellow bristles on the underside of the hind femora. *Scutellum* with only black hairs. *Ovipositor* compressed, black, shining, short, about as long as the last two segments.

Tolmerus parvus, ♂ ♀, sp. n.

Type (male) from Nuwara Eliya, Ceylon (Yerbury Coll.), type (female) from Nuwara Eliya, Ceylon (*E. E. Green*), and a series of males and females from the same and other localities in Ceylon.

A small blackish species, the abdomen appearing dusky

golden yellow in well-preserved specimens by reason of the coloured tomentum and hairs. Legs, moustache, and antennæ black.

Length, ♂ $12\frac{1}{2}$ –14, ♀ 13–14 mm.

Male.—*Face* blackish with yellowish tomentum, tubercle large. *Moustache* composed of fine black hairs and a few white ones sometimes below, these hairs reaching nearly to the antennæ. *Palpi* black-haired. Beard white. *Antennæ* black, the first two joints with black hairs, the third as long as the two joints together; the arista stout, as long as the third joint. *Forehead* with a few weak black hairs. Hind part of head with stout black bristles. *Thorax* in type denuded, in the others brownish with a darker divided median stripe and with side-stripes; pubescence black with longer black hairs and bristles posteriorly and on the median stripe. *Scutellum* with short black hairs and three or four black bristles on the border. *Abdomen* blackish covered with yellow tomentum and the segmentations are yellowish; pubescence black, with yellow bristles on the segmentations towards the sides; underside with soft yellow hairs. *Genitalia* small, pointed, black, the upper forceps long, simple, club-shaped, under pair in proportion large, but still shorter than the upper pair, both are black, shining, with black hairs. *Legs* black, with some yellow hairs intermixed with black hairs on the underside of the femora, and some short yellow pubescence on the uppersides; tibiae and tarsi with black hairs and bristles, the hind tibiae and tarsi with some appressed pale yellowish pubescence. *Wings* clear, grey on the apices and fore and post borders, leaving only centre of wing clear, the posterior branch of the third vein with rather a sharp bend in the middle, the small transverse vein is just beyond the middle of the discal cell.

Female identical, the hairs of the forehead are more numerous and stronger. *Ovipositor* short, black, not so long as the last two joints together.

The species is probably near *Tolmerus nicobarensis*, Schiner, whose description is rather insufficient; this species is larger and the bristles on the abdomen are yellow.

Machimus pallipes, ♂ ♀, sp. n.

Type (male) from Dharmoti, Kumaon, type (female) from Bhowali, Kumaon, and two other females from Bhowali and Dharmoti. All in Forest Research Zool. Coll. (*A. D. Inms*).

A species with a reddish-yellow-looking abdomen; femora

black, legs otherwise deep reddish. Moustache black and yellow. Wings large, clear, yellowish on fore border in the females.

Length, ♂ 17, ♀ 18-24 mm. The male type is distorted somewhat, appearing immature.

Male.—*Face* bronze-brown, covered with glistening yellow tomentum; tubercle large, carrying the moustache composed of yellow bristles and black ones above. Beard of soft yellow hairs. *Palpi* yellow-haired. Face bare of pubescence above tubercle. *Antennæ* reddish (the third joint is wanting) with bristly black hairs below. *Forehead* same colour as face with bristly black hairs. Hind part of head with yellow and black bristles. *Thorax* bronze-coloured with yellowish tomentum, stripes are visible; pubescence black and black bristles on posterior part. *Scutellum* covered with glistening yellow tomentum, and with weak yellow hairs, five stout black bristles on edge, and traces of yellow weaker ones. *Abdomen* brownish covered with bright yellow tomentum, which is brighter on the segmentations; pubescence yellowish, long yellow bristles on the segmentations; underside with soft yellow hairs. *Genitalia* black, the upper forceps large, club-shaped, the lower pair about half as long, the last segment produced, with thick orange-yellow hairs covering its apical border and reaching beyond the lower forceps; pubescence elsewhere is yellowish. *Legs* long and fairly stout; femora brownish with soft yellow hairs below, the fore pair unarmed, upper-sides of femora with short yellow pubescence, a few black hairs are visible on the upper-sides of the fore femora; tibiæ and tarsi dull yellowish with yellow pubescence and long yellow hairs on the tibiæ, all bristles black; underside of first joint of fore tarsi armed with many short black bristles. *Wings* grey, only clear in the centre, the small transverse vein beyond the middle of the discal cell.

Female differs in the colouring of the legs somewhat, but the male is probably not fully developed. Femora entirely black, a few black hairs are intermixed with the yellow ones below on the fore femora, which have also stout black bristles on their outer sides, not present in the male, the two black bristles below at apex are much stouter; tibiæ and tarsi brighter red. *Antennæ* chiefly black (third joint wanting). *Palpi* black-haired. *Thorax* darker with grey tomentum. *Scutellum* with six black bristles on edge. *Abdomen* brownish, covered with the same yellow tomentum, pubescence short, chiefly black, segmentations with yellow bristles as in male, the ground-colour is more apparent on the basal segments. *Ovipositor* black, short. *Wings* with yellow veins.

Machimus pubescens, ♂ ♀, sp. n.

Type (male) from Gyantse, 13,000 feet, Tibet (Tibet Expedition, H. J. Walton, 1905).

Type (female) and other males from the same locality, one from Gantok, Sikkim.

A species probably unique in this genus, with thick orange-yellow hairs covering the abdomen, the same-coloured hairs on posterior part of thorax and on scutellum. Legs black, with reddish-yellow bristles.

Length, ♂ 18, ♀ 16 mm.

Male.—*Face* shining black with some grey tomentum at sides; tubercle large, carrying the *moustache* composed of long soft black and yellow hairs. Beard yellowish white, very thick. *Antennae* blackish, the first two joints with black hairs, thickest on the first one, third long. *Forehead* covered with grey tomentum, and with long black hairs at sides and on ocelligerous tubercle. Hind part of head with black hairs only slightly bent over. *Thorax* blackish with two or three yellowish tomentose stripes; pubescence short, black, but a median line of hairs are longer, almost *Dysmachus*-like; on the posterior part of thorax the long bristles are chiefly yellow with unusually many yellow hairs as long as those on the scutellum; in all the other male specimens these hairs are black, and most of the bristles yellow; sides covered with grey tomentum and with whitish hairs and some strong yellow bristles. *Scutellum* covered with a thick tuft of yellow hairs on its posterior border, bending inwards; a few black hairs or weak bristles are visible on its inner side. *Abdomen* black, shining, but, with the exception of the dorsum of the first segment, it is entirely covered with long yellow hairs like those on the scutellum; they are more orange in colour above, becoming paler at sides and on the underside. *Genitalia* short, black, shining, with yellow pubescence; the upper forceps stout, ending in a point curved downwards; the lower pair shorter but stout; between them appear three reddish and black long processes, the distinctive characteristic of the genus; the shape of the underside of last segment is not very pronounced, as it is only very slightly produced in the middle, but is raised with a fringe of dense white hairs. *Legs* stout, black, with a trace of reddish knees; the underside of fore femora with thick soft black hairs, the middle pair the same, the hind pair with white hairs and with stout reddish-yellow bristles; uppersides of femora with whitish hairs; tibiae with whitish hairs, long and black on the underside of the fore pair; tarsi with chiefly black hairs, all the

bristles on the legs stout, reddish-yellow, and numerous, except on the tarsi. *Wings* clear, grey at apex and in the middle of the cells, veins brown, small transverse vein beyond the middle of the discal cell, the posterior branch of cubital vein with a slight bend inwards.

Female identical. *Thorax* with hairs on posterior part chiefly yellow. *Abdomen* with the orange-yellow hairs not quite so thick on the apical segments. *Ovipositor* small, black, similar to those of the typical species of the genus. *Legs* with chiefly black bristles on the tarsi, whereas in the male the yellow are nearly as many as the black. *Wings* with some of the transverse veins clouded as in the male.

This species somewhat resembles *Machimus pallipes*, sp. n., but the genitalia are different and its greater pubescence distinguishes it from this and any other species of *Machimus*; the abdomen is also devoid of bristles. It might possibly require to be placed in a new genus.

Machimus excelsus, ♂ ♀, sp. n.

Type (male), type (female), from Gyantse, 13,000 feet (Tibet Expedition), 1904, and another male and female. Also a female from Gantok, Sikkim (Tibet Expedition), 1904.

A species allied to *Machimus hirtipes* and *khasiensis*, Ricardo, and in many respects related to *Machimus pubescens*, sp. n., but very much less hairy. A blackish species with black legs; tibiæ and tarsi partly deep red. Moustache black and yellow.

Length, ♂ 18-19, ♀ 18-21 mm.

Male.—*Face* blackish, covered with greyish tomentum; tubercle large bearing moustache composed of black weak bristle-like hairs above, at sides and on oral opening enclosing soft yellow hairs. *Palpi* with black hairs. Beard yellowish white. *Antennæ* black, with black bristly hairs on the first joint and a few on the second, third long. *Forehead* with black long hairs. Hind part of head with black bristles. *Thorax* black with black pubescence and bristles, disposed as in *Machimus pubescens*. *Scutellum* covered with stout black long bristles on the dorsum and on border with fringe of yellow bristles. *Abdomen* black with yellow hairs, thickest at sides; dorsum with short black and yellow pubescence; the basal segments black, shining, with less pubescence. *Genitalia* the same as those of *Machimus pubescens*, not quite so hairy, the ventral process below a little more apparent. *Legs* black, the fore and middle tibiæ almost wholly reddish,

the hind pair with a black stripe; tarsi obscurely reddish, the first wholly so; fore femora with soft black hairs below, middle pair with only a few black hairs and with black bristles, the hind pair with short white hairs and a row of strong black bristles, fore femora with black hairs on dorsum; pubescence elsewhere on legs short, white, but fore tibiae with chiefly long black hairs; tarsi with short black hairs, all bristles black. *Wings* clear, grey at apex and in centre of cells; bend on posterior branch of cubital vein very slight.

Female identical. *Moustache* almost wholly yellow. *Fore-head* also with a few white hairs intermixed with the black ones. *Thorax* with white hairs on the posterior part and at its sides, with the black hairs and bristles. *Scutellum* with the yellow bristles on border more like soft yellow hairs. *Abdomen*, less denuded than in male, shows grey tomentum at sides. *Ovipositor* short, black. *Legs* have the hind tibiae wholly red, except at extreme apices.

Machinus rufipes, ♂ ♀, sp. n.

Type (male) from Dehra Dun on wing in Forest Research Zool. Coll.

Type (female) from Kangra Valley, Punjab (Dudgeon Coll.), in Brit. Mus. Coll.; and another male from Takula, Kumaon, in India Forest Research Zool. Coll.

A large robust species with reddish tibiae and tarsi. Scutellum with four to six large stout black bristles on its outer border; fore femora with no bristles below.

Length, ♂ 20-24, ♀ 25 mm.

Male.—*Face* blackish covered with pale yellow tomentum, tubercle large. *Moustache* composed of yellow bristles with some black ones near the oral opening. *Palpi* black-haired. In the space between moustache and base of antennae only two or three white hairs above moustache. *Antennae* blackish, with black bristly hairs, third joint wanting. *Forehead* with white bristly hairs. Hind part of head with very stout black bristles. *Thorax* blackish covered with grey tomentum, the usual stripes distinct; pubescence on dorsum black, with a few white hairs, on the posterior part besides the usual black bristles are numerous white hairs intermixed. *Scutellum* same colour as thorax; dorsum covered with white hairs, armed with six bristles in the type, but only four in the other male. *Abdomen* blackish with grey tomentum and the usual dark spots, segmentations slaty grey; pubescence on dorsum black on the dark spots, white on the segmenta-

tions and at sides, with white bristles at sides; underside with weak white hairs. *Genitalia* large, the last segment on its underside produced, with two obtuse teeth on its truncated end, from each of which proceed long white hairs; upper forceps large, black, with white hairs, the lower pair small, black, the middle processes reddish. *Legs* with black shining femora, clothed with whitish pubescence and long white hairs on underside of fore femora; tibiae reddish with apices darker, also clothed with yellowish-white pubescence and tarsi the same, all bristles black; the fore tibiae with some longer whitish hairs below. *Wings* with dark shading in the centre of cells.

Female identical. *Ovipositor* short, black, a little longer than the last segment.

CINADUS, v. d. Wulp.

Tijd. v. Ent. xli. p. 139 (1898).

This genus was founded for two species from Sumatra and Java, and from Celebes, characterised by the very abrupt bend in the posterior branch of the third vein, the nakedness of the *abdomen*, and the small facial tubercle. *Genitalia* in males very large. The material in the Brit. Mus. Coll. is very scanty, but one new species has been added by Edwards and two by de Meijere, and five Walker species are now transferred to this genus, which is confined as yet to the Oriental and Australasian regions. The facial tubercle shows a certain amount of diversity in shape and size. The species seem very nearly allied to each other. De Meijere's species, *Cinadus rufipes*, seems probably identical with Walker's *Cinadus levis*. The other species, *Cinadus forcipatus*, from Sumatra, is described as near *C. spretus*, but differs in the shape of the genitalia.

Cinadus spretus, v. d. Wulp, from Sumatra and Java, is smaller; antennae darker; the apices of fore femora black.

Cinadus tenuicornis, ♂ ♀, Walker.

Proc. Linn. Soc. London, iv. p. 108 [*Asilus*] (1860).

? *Cinadus spurius*, v. d. Wulp, Tijd. v. Ent. xli. p. 140, pl. v. figs. 1-4 (1883), et xlii. p. 48 (1899).

Type (female) from Makassar. Two males from Eastern Archipelago, according to the card-label only.

These specimens appear identical with v. d. Wulp's species, also from Celebes. The males are similar to the figures given by v. d. Wulp, the *genitalia* being large, black. *Antennae* yellow. *Moustache* yellow with some black bristles,

but in the female wholly yellow. *Face* with a distinct tubercle on lower part of face. *Abdomen* black with yellow segmentations. *Legs* yellow with the apices of the middle and hind femora black, the latter with black rings, which in these specimens unite with the black apices; hind tibiae black on the outer side; tarsi black.

Length, ♂ 21, ♀ 18 mm.; v. d. Wulp gives 17 mm.

A female from Dehra Dun, in Forest Research Zool. Coll., has lately been sent to me which seems identical with Walker's type; the hind tibiae are rather paler in colour and the moustache is black and white as in the male.

It will be of interest to observe in the future whether this species is common in India, and how wide its distribution is. A species from Ceylon in the Brit. Mus. Coll. also appears to belong to this genus.

Cinadus debilis, ♀, Walker.

Proc. Linn. Soc. London, i. p. 13 (1856) [*Asilus*].

Type (female) from Malacca.

A species very near *C. tenuicornis*, Walker, but the *legs* are darker, the black colour on the hind femora extending below on the whole length and the hind tibiae are black except at the base. *Moustache* chiefly black. *Face* with a smaller tubercle. *Abdomen* darker. The angle on the branch of third vein is very pronounced.

Length 17 mm.

Cinadus levis, ♀, Walker.

Proc. Linn. Soc. London, v. p. 236 [*Asilus*] (1861).

? *Cinadus rufipes*, ♂, de Meijere, Nova Guinea, ix. p. 338 (1913).

Type (female) from New Guinea.

A species nearly allied to *Cinadus tenuicornis*, Wlk., but the *legs* are wholly yellowish and the *moustache* is yellow. *Face* concave in the middle with hardly any tubercle below.

Length 18 mm.

The male described by de Meijere from Bivak Island is very probably the male of this species. *Genitalia* are described as black, large, with black hairs, and 15 mm. in length.

Cinadus didymoides, ♀, Walker.

Proc. Linn. Soc. London, vii. p. 208 (1864) [*Asilus*].

Type (female) from Menado, Celebes.

A species very near *Cinadus levis*, Wlk., but the *face* is

very similar to that of *Cinadus tenuicornis*, Wlk.; the *moustache* has some black bristles intermixed with the yellow.

Length 18 mm.

Cinadus flagrans, ♀, Walker.

Proc. Linn. Soc. London, i. p. 116 [*Asilus*] (1857).

Type (female) from Borneo (Walker Coll.).

A species nearly allied to *Cinadus tenuicornis*, Wlk., the colouring of the legs and the *moustache* identical. Facial tubercle the same, but the abdomen has the first segment transparent yellow at base, and hardly perceptible lighter segmentations.

Length 10 mm.

Cinadus genitalis, Edwards.

Journ. Fed. Malay States Museums, viii. (iii.) p. 34 (1919).

A species (male only) with the abdomen black, the segmentations greyish. Genitalia very large, complicated.

Legs yellow with the hind femora almost wholly black. *Moustache* yellow.

Length 19 mm.

From West Sumatra.

Cinadus complens, Walker.

Proc. Linn. Soc. London, v. p. 281 (1861) [*Asilus*].

Type (female) from Batjan, and another female from Gilolo.

Male from Menado, labelled *discutiens*, which is only a MS. name.

A wholly black species. Face in male light yellow, with a large tubercle taking up most of the face. *Moustache* black in male, black and white in female. Abdomen dark with narrow grey segmentations.

Length 10 mm.

Cinadus biligatus, Walker.

Proc. Linn. Soc. London, vii. p. 224 (1864) [*Asilus*].

Type (male) from Waigiou and a female from New Guinea.

This species has not the sudden bend in the posterior branch of the third vein, the chief characteristic of the genus, and the genitalia of the male are small, not large and complicated as in the other species of this genus; but as it so nearly resembles *Cinadus levis*, Wlk., which possesses the

bend in the wing, I leave it here for the present. *Antennæ* are black on the first joint, the second joint is reddish, and the third is wanting; the bend in the vein of wing is represented by a small concave bend.

Face with small tubercle on lower third of face.

Length, ♂ 20, ♀ 18 mm.

The following genera recorded from the South African Region are not represented in the Brit. Mus. Coll.:—

Rhadiurgus with one species from Abyssinia (*notatus*, Bigot); *Erax* with one species from Africa (*albiceps*, Macq.); and *Tetromyia* with one species from Madagascar (*cothurnatu*, Bigot). *Protophanes* with two species.

The following genera recorded from the Oriental Region not represented in the Brit. Mus. Coll. are:—*Erax* with one species from Bengal (*rufiventris*, Macq., and *integer*, Macq., from Manila); *Erax curvatis*, Wlk., from Nepal, is not to be found and should be deleted from the list. *Antipalus kuchi*, de Meijere, from New Guinea, and *Antipalus wiencekii*, v. d. Wulp, from Timor and Java; *Eccoptopus impiger*, v. d. Wulp, from Celebes; *Rhadiurgus bifidus*, F., from Tranquebar; *Threnia acanthura* and *microtelus*, v. d. Wulp, from Java, and *Stenoprosopis diardii*, Macq., from Bengal; *Philonicus longulus*, from Celebes, and *nigrosetosus*, v. d. Wulp, from Sumatra, and *Lecania tabescens*, Roudani, from Borneo.

IV.—*Coleoptera*, Erotylidæ and Endomychidæ, from the Seychelles, Chagos, and Amirantes Islands. By GILBERT J. ARROW.

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[Plate III.]

[THIS work forms part of the results of the Percy Sladen Trust Expedition to the Indian Ocean under Professor J. Stanley Gardiner, F.R.S., in 1905 and 1908-9. Most of these results have appeared in a special series of volumes, Trans. Linn. Soc. Lond., ser. 2 (Zool.), vols. xii.-xviii., the last of which is at present (1922) in course of publication. It has not, however, been possible to include all the reports in that series, and I am indebted to the Editors of the 'Annals